

**REMARKS**

Claims 12-22 were considered in the Office Action mailed April 11, 2007.

The following objections and rejections were entered:

- Claims 12-23 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for:
  - Claim 12: Use of “means” without identification of a function.
  - Claims 12 and 18: Lack of clarity as to whether the “direct fastening means” is a separate limitation/element.
  - Claims 12 and 18: No positive recitation of a knife.
  - Claims 12, 18 and 19: Lack of clarity as to “their respective mounting faces.”
  - Claims 18: Lack of clarity as to whether “a knife cutting edge refers to the either of the chipping knife or the slabbing knife.
  - Claims 20 and 21: Lack of antecedent basis for “the first knife holders.”
  - Claim 20: Lack of clarity as to whether the first and second knife holders are different from the plurality of knife holders recited in claim 19.
  - Claim 21: Lack of clarity as to what “circumferential” refers.
  - Claim 22: Insufficient antecedent basis for the term “the direction of rotation.”
- Claims 12, 14, 17-20 and 22-23 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,271,442 to Carpenter, *et al.* (“Carpenter”).
- Claims 13 and 15-16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Carpenter, in view of U.S. Patent No. 5,511,597 to Shantie, *et al.* (“Shantie”).

The following addresses each of the pending objections and rejections.

1. **The § 112 Rejections Have Been Addressed.** The Applicant has amended the claims to address each of the pending § 112 rejections, as follows:

Use of “means” without identification of a function: In order to eliminate any potential for confusion, the Applicant has amended the claims to eliminate the reference to “direct fastening means” (a more specific reference to the originally recited “means for detachable mounting”). Accordingly, claim 12 now recites: “the means for detachable mounting fasten the chipping knife and the slabbing knife directly on the knives’ respective holder body mounting faces.”

Clarification as to the term “their respective mounting faces”: The Applicant has amended the claims throughout to replace the word “their” with the appropriate reference, and at each recitation of “mounting faces,” to refer to the location of the recited mounting faces, *e.g.*, “directly on ~~their~~ the knives’ respective holder body mounting faces.”

Clarification as to reference to the chipping knife or the slabbing knife: In claim 18, the recited “a knife having at least one knife cutting edge on at least one longitudinal side of the knife” was objected to as being unclear as to whether the knife is the chipping knife or the slabbing knife. In order to clarify the claim language, the Applicant has amended claim 18 to expressly recite: “said knife being mounted on the knife holder as one of a chipping knife on a periphery face and a slabbing knife on an end face.”

Antecedent basis for “the first knife holders”: The Applicant has addressed the antecedent basis issue by amending claim 19 to refer to a plurality of first knife holders. The Applicant submits that these amendments and corresponding additional amendments in claims 19-21 also clarify which holders belong to the first and second holder pluralities.

A reference for the term “circumferential”: The Applicant has amended claims 20-22 to provide a relative reference for the circumference and the direction of rotation referred to in these claims, *e.g.*, claim 19 now recites “a [[the]] circumferential direction defined by rotation of the tool head about an axis of symmetry of the truncated cone or cylinder shape.” The Applicant submits that one of ordinary skill in the art would instantly recognize the normal rotation of such cutter heads, and would find no ambiguity in the amended claims language.

In view of the foregoing, the Applicant respectfully requests reconsideration and withdrawal of the pending § 112 rejections.

**2. The Claims Are Patentable Over Carpenter and Shantie.** The Applicant respectfully traverses the rejection of claims 12, 14, 17-20 and 22-23 as anticipated by Carpenter, and of claims 13 and 15-16 as unpatentable over Carpenter in view of Shantie, on the grounds that these references fail to disclose or suggest all of the features of the present invention recited in the pending claims.

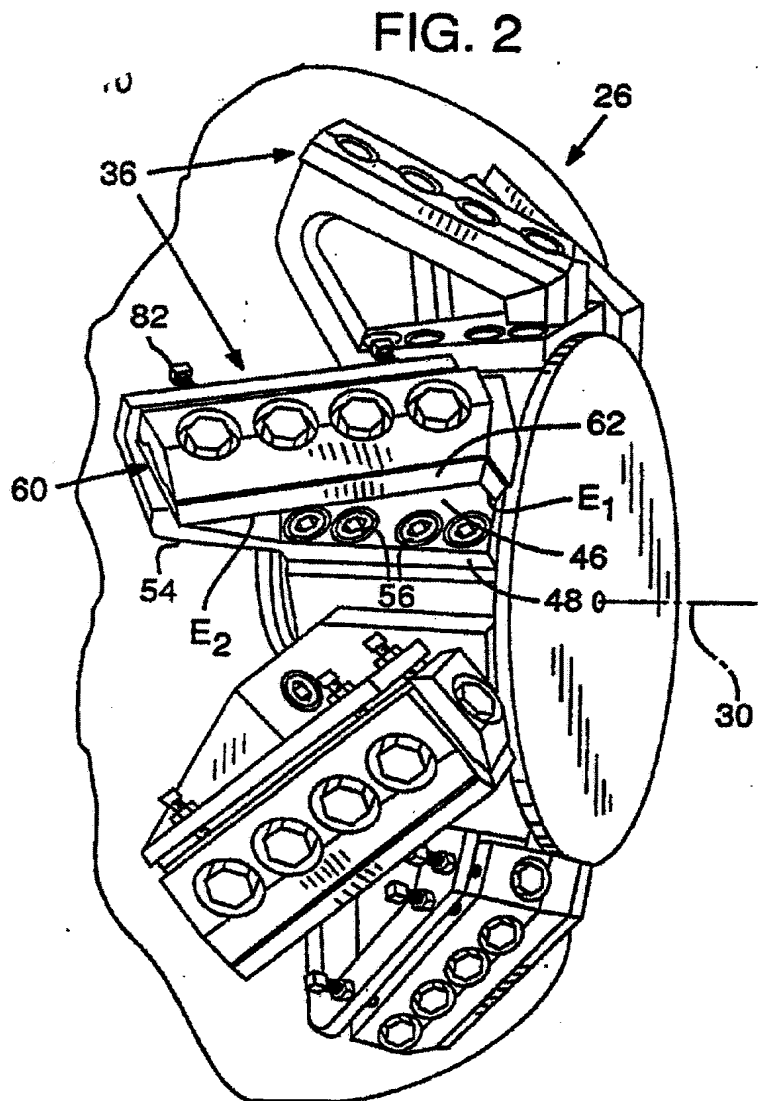
As noted in the Applicant’s previous response, the present invention is directed to a blade holder, blade and blade tool head which utilizes a novel direct-mounting technique which greatly simplifies cutting tool design and maintenance (*e.g.*, providing rapid and easy mounting, with a highly repeatable position accuracy), and provides superior cutting performance by eliminating the generation of debris-clogging gaps between cutting blades as the cutting blades wear during use. *See, e.g.*, Specification ¶ [0010]. As shown in the copy of Fig. 1

¶¶ [0010], [0015], [0032]-[0038].



present Specification at ¶ [0004]) teaches blades set separate from one another

and without any corresponding knife end geometry, *i.e.*, knives arranged with the prior art's problem-causing debris-gathering gaps between the blades, as shown in the Carpenter figure included in the April 11, 2007 Office Action, and Carpenter Fig. 2, below:



Carpenter therefore fails to disclose or suggest the present invention's arrangements in which "the chipping knife and the slabbing knife each having

knife contact faces inclined in a V shape and arranged such that when mounted on the knives' respective holder body mounting faces, the knives' contact faces abut one another along the knives' respective inclined V shape contact faces such that no gap is formed between the contact faces as the knives' cutting edges wear."

Carpenter also fails to disclose or suggest the present invention's mounting arrangements. The April 11, 2007 Office Action states that Carpenter discloses "mounting faces of the holders (68, 164) having a V-shape." In Carpenter, each chipping and slabbing knife (60, 160) is mounted by being clamped through the use of a clamping element (110, 190) against a ridge (94, 176) of *rectangular* cross section of a holder assembly, the ridge mating with a channel or groove (97, 174) formed with corresponding rectangular cross-section in the respective knife, said ridge thus forming a respective holder contact face. In the present invention, the mounting faces associated with a corresponding knife to be mounted on the holder body have holder contact faces which are inclined with *V-shaped* cross-section.<sup>1</sup>

Carpenter further fails to disclose or suggest the use of the knife mounting means in the form of direct fastening as recited the present independent claims. Namely, the recited means for detachable mounting means are required to have contact faces inclined in a V-shape *for each chipping and slabbing knife separately*.

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<sup>1</sup> The Applicant notes that the recited limitation requiring a V shaped holder face configuration should not be confused for the separate V shape limitation related to the arrangement of the contact areas at the transverse ends of the adjacent blades. The Applicant believes the present amendments should preclude any potential for this aspect of the invention to be misunderstood by those of ordinary skill in the art.

In contrast, each knife of Carpenter has one channel 97, 180 of rectangular cross-section as knife contact faces, and thus are *not* inclined in a V-shape. Consequently, the holding force in the Carpenter arrangement cannot act between the contact faces inclined in a V-shape, as required by the pending claims.

Finally, the Carpenter the clamping knife mounting mechanism is not “means for detachable mounting fasten the chipping knife and the slabbing knife *directly* on the knives’ respective holder body mounting faces,” as used in the present invention. The Applicant notes that this prior art knife clamping mechanism is quite similar to clamping arrangement in the previously distinguished Shantie reference, and can distinguished here for much the same reasons, *i.e.*, like Shantie, Carpenter uses a blade-clamping mechanism for supporting its knives, in which a separate, detachable component (knife clamp 110; Fig. 3) traps a knife blade against an underlying knife support 68. Also like Shantie, in order to provide for stable knife positioning, the Carpenter knife clamp 110 has a knife-receiving protrusion of rectangular cross-section which cooperates with a corresponding groove in the knife to align the knife in a desired orientation. Thus, there is no direct fastening with the Carpenter arrangements, and any screws used as fastening elements are provided *outside* the region of the clamped knife blade (again, just like Shantie).

Because the Carpenter reference fails to disclose or suggest several of the features of the present invention recited in the pending claims, and these deficiencies are not cured by the Shantie reference, claims 12-23 are patentable over Carpenter and the combination of Carpenter and Shantie under § 102(b)

and § 103(a), respectively. The Applicant therefore respectfully requests reconsideration and withdrawal of the pending rejections.

CONCLUSION

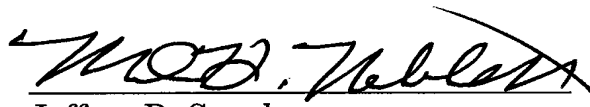
In view of the foregoing amendments and remarks, the Applicant submits that claims 12-23 are in condition for allowance. Early and favorable consideration and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101643.55963US).

Respectfully submitted,

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